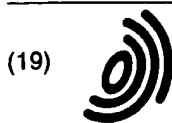


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(54) **POP-UP TISSUE PACKAGE**

VERPACKUNG MIT ERLEICHTETER AUSGABE VON TASCHENTÜCHERN

BOITES A MOUCHOIRS A DISTRIBUTION AUTOMATIQUE

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(56) References cited:  
**US-A- 2 890 791** **US-A- 3 795 355**  
**US-A- 5 516 001**

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**Description****FIELD OF THE INVENTION**

[0001] This invention relates to a dispensing package for tissues. More particularly, this invention relates to a package for sequential dispensing of tissues which pop-up beyond the walls of the tissue package, and typically pop-up above the top wall of the dispensing package, when the preceding tissue is removed.

**BACKGROUND OF THE INVENTION**

[0002] Tissues are well known in the art. Tissues, such as facial tissues, are commonly used for blowing one's nose, cleaning tasks, etc. Tissues can also be used as paper towels for wiping, clean-up tasks, etc. Tissues, and their packaging, must be inexpensive and disposable to be widely consumer accepted. Tissues may be supplied dry, with lotion, or moistened. Such tissues are generally rectangular in shape and supplied in discrete sheets. Tissues are typically supplied in a generally parallelepipedally shaped box or dispensing package. The dispensing package has a dispensing opening, typically at the top, through which the individual sheets are removed by the user.

[0003] Early tissue dispensing packages were of the "reach-in" type. The user had to insert his or her fingers through the dispensing opening, grasp a tissue, and pull it out through the dispensing opening. Examples of reach-in dispensers and improvements thereto can be found in U.S. Pat. Nos. 3,021,002, issued Feb. 13, 1962 to Guyer; commonly assigned 3,576,243, issued April 27, 1971 to Trunnick; and 4,458,810 issued July 10, 1984 to Mahoney.

[0004] Over time, the desire for increased convenience led to sequential or pop-up dispensers. In a "pop-up" dispenser, a tissue usually extends through the dispensing opening to an elevation above that of the dispensing package. The user simply grasps the exposed portion of the tissue, without the necessity of inserting fingers through the dispensing opening. In pop-up dispensing, each tissue has a leading portion which is first to pass through the dispensing opening, and a trailing portion which later passes through the dispensing opening. Typically, the trailing portion of a tissue to be dispensed overlaps the leading portion of the next tissue to be dispensed. The overlap is measured generally parallel to the direction of withdrawal of the tissues through the dispensing opening. The overlap is usually, but not necessarily, the same for each tissue and constant throughout the width of each tissue. As the first tissue is withdrawn by the user, the leading portion of the next tissue is pulled through the dispensing opening, for later dispensing.

[0005] Typically, the sequential withdrawal of the succeeding tissue through the dispensing opening occurs due to interfolding of adjacent tissues. An example of

an interfolding arrangement is found in commonly assigned U.S. Patent 3,881,632, issued May 6, 1975 to Early et al., the disclosure of which is incorporated herein by reference.

[0006] Attempts to improve pop-up dispensing packages also include attachment of the tissues to the removable top of the box, so that the first tissue is pulled through the dispensing opening when the box is opened. Still another attempt provides a lapping flap which allegedly holds partially dispensed sheets from falling back into the package. Examples of such attempts in the art include U.S. Pat. Nos. 2,890,791, issued June 16, 1959 to Wenzel; and 4,574,952, issued March 11, 1986 to Masui. A commercially successful improvement in the art is the dual mode dispensing package which allows for both pop-up and reach-in dispensing, as found in commonly assigned U.S. Pat. No. 4,623,074, issued November 18, 1986 to Dearwester, the disclosure of which is incorporated herein by reference. Yet another teaching which provides for sequential dispensing from a reach-in and pop-up mode is found in commonly assigned U.S. Patent 5,516,001, issued May 14, 1996 to Muckenfuhs et al., the disclosure of which is incorporated herein by reference.

[0007] However, there has been a suggestion in the art to no longer use interfolding arrangements. Apparatuses for interfolding are both complex and expensive. The purchase of such an apparatus represents a capital outlay which is ultimately passed on to the consumer.

[0008] A teaching to avoid interfolding and yet provide for pop-up dispensing is found in commonly assigned U.S. Patent 5,520,308, issued May 28, 1996 to Berg et al., the disclosure of which is incorporated herein by reference.

[0009] There remains a need in the art to improve pop-up dispensing, particularly for non-interleaved tissues. There further remains a need in the art for a package which allows for dispensing of one, two, or more sheets at a time, as desired by the user. It is an object of the present invention to meet such needs in the art, as well as provide a dispensing package which is easily adjusted to accommodate the different degrees of separation forces necessary to separate adjacent tissues joined by various attachment means.

**BRIEF DESCRIPTION OF THE DRAWINGS****[0010]**

Figure 1 is a perspective view of a dispensing package according to the present invention.

Figure 2 is a vertical sectional view taken through line 2-2 of Figure 1.

Figure 3 is a schematic perspective view of a line of weakness having an elongate slit and an engaging tab which is complementary thereto.

Figure 4 is a fragmentary vertical plan view of an alternative embodiment according to the present in-

vention having a spring and plunger in place of the articulated engaging tab of Fig. 1.

## SUMMARY OF THE INVENTION

**[0011]** The invention comprises a tissue package comprising a plurality of tissues and a dispensing package in combination. The tissues are separably joined together in succession for dispensing from the dispensing package. The dispensing package houses the tissues and has an opening through which the tissues are dispensed. The dispensing package further has an engaging tab extending from a proximal end to a distal end. The engaging tab intercepts one of the tissues as it is dispensed from the dispensing package. When the engaging tab intercepts the tissue, it is separated from the succeeding tissues which remain in the dispensing package.

**[0012]** The engaging tab exerts a frictional force against the tissues, causing separation to occur when the tissue is intercepted by the engaging tab. The engaging tab may be biased towards the tissues. Such biasing may provide for an increase in the frictional force as the tissue is dispensed.

## DETAILED DESCRIPTION OF THE INVENTION

**[0013]** Referring to Figure 1, the tissue package 10 according to the present invention comprises a dispensing package 12 and tissues 14 in combination. The dispensing package 12 may have defined walls, and is preferably generally parallelepipedally shaped. The dispensing package 12 further has a dispensing opening 16 therethrough. The tissues 14 are dispensable through the dispensing opening 16. The dispensing package 12 further has an engaging tab 18 for intercepting one of the tissues 14 as it is dispensed from the package. The engaging tab 18 separates one tissue 14 from succeeding tissues 14.

**[0014]** Examining the dispensing package 12 in more detail, it may have discrete walls. The walls preferably define a top 24, a bottom, front and back sides 26 and left and right sides 28. Preferably the dispensing opening 16 intercepts the top wall 24, and may intercept one of the other walls 26, 28 of the dispensing package 12, so that the tissues 14 are dispensed in a pop-up manner. A suitable dispensing package 12 may be generally made in accordance with the teachings of the aforementioned commonly assigned U.S. Pat. No. 4,623,074 previously incorporated by reference.

**[0015]** The tissue package 10 according to the present invention can either be disposable or refillable. By "disposable" it is meant the dispensing package 12 is intended to be discarded after the plurality of tissues 14 supplied therewith is depleted. Such a dispensing package 12 is not intended to be restocked with tissues 14. Likewise, each tissue 14 is discarded after use, and is not laundered or otherwise restored. By "refillable" it

is meant the dispensing package 12 is or may be restocked with tissues 14 after the supply is depleted.

**[0016]** Examining the tissues 14 in more detail, the tissues 14 comprise a plurality of discrete sheets or sheets which are separable. As used herein, tissues 14 are considered to be "discrete" if they are separate from other tissues 14 prior to being releasably joined to adjacent tissues 14. Tissues 14, whether or not discrete, are considered to be separable if they may be detached from one another without tearing and/or undue or unintended gross deformation of the tissue 14. It is to be recognized that a tissue 14 may be torn from an adjacent tissue 14 along a predetermined line of weakness and still be considered separable.

**[0017]** Separable tissues 14 may be joined together by lines of weakness, such as perforations 30, as are well known in the art. Suitable perforations 30 may be made according to commonly assigned U.S. Pat. No. 5,114,771, issued May 19, 1992 to Ogg et al. It will be recognized that separably joined tissues 14 joined by perforations 30 may be core wound, as is common with bath tissue, or may be folded in any of the suitable and well known patterns. It is to be recognized that the lines of weakness or other perforations 30 will have to be modified as discussed below to be complementary to the engaging tab 18 set forth in the present invention. Alternatively, discrete tissues 14 may be joined together by interfolding, or by releasable attachment directly to an adjacent tissue 14, as discussed in the commonly assigned and incorporated U.S. Pat. No. 5,520,308 issued to Berg, Jr. et al. Releasable attachment directly to adjacent tissues 14 may be accomplished by means of adhesive, cohesive overlap, fusion bonding or by autogenous bonding as disclosed in commonly assigned U.S. Pat. No. 4,854,984 issued August 8, 1989 to Ball et al., the disclosure of which is incorporated herein by reference. Additionally, mechanical entanglement such as needle punching, steam sealing, embossing or crimping may be utilized to releasably join discrete sheets of tissue 14 to each other.

**[0018]** Suitable tissues 14 may be made according to commonly assigned U.S. Pat. Nos. 4,191,609, issued March 4, 1980 to Trokhan; 4,637,859, issued January 20, 1987 to Trokhan; and 5,332,118, issued July 26, 1994 to Muckenfuhs, the disclosures of which are incorporated herein by reference for the purpose of showing how to make tissues 14 suitable for use with the present invention, or by any other suitable manner. It is noted the tissues 14 may either be provided wet, dry, or lotioned.

**[0019]** Examining the dispensing package 12 in more detail, the dispensing package 12 may have a plurality of walls 24, 26, 28, and preferably has at least one defined wall with a dispensing opening 16 therethrough. The tissues 14 are dispensable through this dispensing opening 16. The dispensing package 12 may be generally parallelepipedally shaped as shown, or, alternatively, may be made of material having a relatively amorphous

shape. However, the dispensing package 12 is preferably rigid enough that the engaging tab 18 can intercept and separate adjacent tissues 14 upon dispensing through the dispensing opening 16. It is understood that the engaging tab 18 may intercept any portion of the tissue 14 which causes separation from succeeding tissues 14. The engaging tab 18 preferably intercepts the tissue 14 at the line of weakness separating adjacent tissues 14, or any other means releasably joining adjacent tissues 14, such as an overlap. The engaging tab 18 should be rigidly mounted to the dispensing package 12 so that it can apply a reaction force to the tissues 14 upon dispensing. The reaction force separates one of the tissues 14 from succeeding tissues 14.

[0020] Referring to Figure 2, the engaging tab 18 is mounted to the dispensing package 12 in any convenient manner and, preferably, is cantilevered from the dispensing package 12. More preferably, the walls of the dispensing package 12 have inner and outer surfaces, and the engaging tab 18 is joined to and cantilevered from one of the inner surfaces of the walls of the dispensing package 12. This arrangement provides a tissue package 10 which is relatively neat in appearance as presented to the end user. Additionally, the potential for pinch points to fingers as well as accidental disruption of the position of the engaging tab 18 is minimized.

[0021] The engaging tab 18 may be cantilevered from a proximal end, preferably spaced relatively remotely from the dispensing opening 16, and extends to a distal end. The distal end is preferably juxtaposed with the dispensing opening 16, so that it intercepts the tissues 14 upon withdrawal through the dispensing opening 16.

[0022] The engaging tab 18 may extend through the dispensing opening 16 at a position intermediate the proximal and distal ends, so that the distal end is outside of the dispensing package 12. In this manner, the engaging tab 18 may intercept the tissues 14 upon dispensing, and cause separation of one tissue 14 from an adjacent or succeeding tissue 14 by creating friction between the one tissue 14 and the adjacent or succeeding tissues 14. This arrangement provides a visual signal to the user. When the engaging tab 18 intercepts the succeeding tissue 14 (preferably at the line of weakness separating one tissue 14 from the adjacent or succeeding tissues 14) the user will recognize this has occurred because the distal end of the engaging tab 18 is outside of the tissue package 10.

[0023] The engaging tab 18 may be integral with the dispensing package 12. In this arrangement, the engaging tab 18 comprises an angular segment 22 cut out from the dispensing package 12 and folded back on itself to be cantilevered therefrom. More particularly, the engaging tab 18 may be formed from one of the rigid walls of the dispensing package 12. In this arrangement, the engaging tab 18 is not only integral with but is also hingedly connected to the dispensing package 12.

[0024] By folding the engaging tab 18 away from the rigid wall of the dispensing package 12, the engaging

tab 18 may be biased towards the tissues 14. Alternatively, the engaging tab 18 may be biased towards the tissues 14 by using a separate spring. Biasing the engaging tab 18 towards the tissues 14 provides the advantage that as the tissues 14 are dispensed through the dispensing opening 16 and intercept the engaging tab 18, the friction exerted by the engaging tab 18 against the tissues 14 increases as the engaging tab 18 moves against the biasing force. The friction in this manner can be increased, as tactily discerned by the user, until the separation force is sufficient to cause separation of one tissue 14 from adjacent tissues 14. Biasing may be provided with a spring 20 which exerts a reaction force against one of the walls 26, 28 or the top 24 of the dispensing package 12.

[0025] Referring to Figure 2, if desired, multiple tissues 14 may be dispensed from the dispensing package 12 prior to separation of one tissue 14 from the succeeding tissues 14. For example, the tissues 14 may be pulled through the dispensing package 12 in the direction of arrow A and away from the engaging tab 18. In this mode, the engaging tab 18 does not intercept the tissues 14, providing the flexibility that multiple tissues 14 may be withdrawn at the same time. When the desired number of tissues 14 have been withdrawn through the dispensing opening 16, the user may then pull in the direction of arrow B. The engaging tab 18 now intercepts the tissues 14, causing separation of the plurality of withdrawn tissues 14 from the balance of the clip.

[0026] Referring to Figure 3, a particularly preferred embodiment of the present invention is shown. In this embodiment, the line of weakness separating adjacent tissues 14 comprises an elongate slit 32. The shape and position of the slit is complementary to the engaging tab 18. That is, the engaging tab 18 is sized to fit within the slit and located at a lateral (i.e., generally parallel to the line of weakness) position which allows the engaging tab 18 to mate with the elongate slit 32. In this arrangement, a tissue 14 is withdrawn successively through the dispensing opening 16 and past the engaging tab 18. The engaging tab 18 is biased towards the tissues 14. As the elongate slit 32 separating adjacent tissues 14 passes near the engaging tab 18 which is biased towards the tissues 14, the engaging tab 18 intercepts the tissue 14 at the elongate slit 32. This provides a step change in the withdrawal force and tactily signals the user that the dispensing of that tissue 14 is complete, and the tissue 14 should be torn or otherwise ripped away from the balance of the clip of tissues 14 with an adequate separation force. By providing such a step change to the user, the user is signaled that the withdrawal process is completed and the tissue 14 should be separated.

[0027] It will be apparent that many other variations are feasible and within the scope of the claimed invention. For example, a torsional spring 20 may be used to provide the biasing force of rather than the coil spring

as illustrated in the figures. As illustrated in Figure 4 a coil spring and plunger arrangement could be used rather than the hingedly connected arrangement illustrated in Figs. 1-2.

[0028] Alternatively, multiple engaging tab 18 may be used in parallel to increase the separation force applied to the tissues 14. More particularly, a line of weakness having a plurality of elongate slits 32, and a like plurality of engaging tabs 18 may be utilized. This arrangement may be more useful for heavier basis weight sheets which require greater separation force, as is commonly used for hand towels, etc. Alternatively, the line of weakness separating adjacent tissues 14 need not be generally perpendicular to the direction of dispensing, but may be diagonal. Of course, the engaging tab 18 would have to be positioned at a like diagonal for maximum efficacy. If desired, two or more opposed engaging tabs 18 may be utilized to increase the separation force, one engaging tab 18 being disposed on each side of the tissues 14.

#### Claims

1. A tissue package (10) comprising tissues (14) and a dispensing package (12) therefor in combination, said tissue package comprising:

a plurality of separable tissues (14), said tissues being separably joined together in succession for dispensing from said dispensing package (12); and  
a dispensing package (12) for housing said tissues (14), said dispensing package (12) having a dispensing opening (16) therethrough, said tissues (14) being dispensable through said dispensing opening (16), said dispensing package (12) having an engaging tab (18) extending from a proximal end to a distal end for intercepting one of said tissues (14) as it is dispensed from said dispensing package (12), wherein each said tissue (14) is separable from an adjacent tissue at a line of weakness, and said engaging tab intercepts said line of weakness between adjacent tissues and causes separation of said tissues at said line of weakness, **characterized in that** said line of weakness comprises an elongate slit (32) between adjacent tissues (14) said elongate slit being complementary to said engaging tab (18), such that as said tissue (14) is dispensed through said dispensing opening (16), said engaging tab (18) intercepts said elongate slit (32) to cause tearing at said line of weakness.

2. A tissue package according to Claim 1, wherein said engaging tab (18) is biased towards said tissues (14), and preferably said engaging tab (18) is

biased from a neutral position by the action of the dispensing of said tissues through said dispensing opening (16).

3. A tissue package according to Claims 1, or 2, wherein said engaging tab (18) is integral with said dispensing package (12), and preferably said dispensing package (12) comprises one or more rigid walls and said engaging tab (18) is formed from one of said rigid walls, and more preferably said engaging tab is formed from a cutout of said rigid wall, wherein said cutout is folded away from said rigid wall.

#### Patentansprüche

1. Tissueverpackung (10) mit Tissues (14) und einer Abgabeverpackung (12) dafür in Kombination, wobei die Tissueverpackung aufweist:

eine Mehrzahl von trennbaren Tissues (14), wobei die Tissues trennbar miteinander in Folge zur Abgabe aus der Abgabeverpackung (12) verbunden sind; und

eine Abgabeverpackung (12) zum Aufnehmen der Tissues (14), wobei die Abgabeverpackung (12) eine hindurch gehende Abgabeöffnung (16) aufweist, wobei die Tissues (14) durch die Abgabeöffnung (16) hindurch abgebar sind, wobei die Abgabeverpackung (12) einen einrückenden Streifen (18) aufweist, der sich von einem proximalen Ende zu einem distalen Ende erstreckt, um eines der Tissues (14) abzutrennen, wenn dieses aus der Abgabeverpackung (12) abgegeben wird, wobei jedes Tissue (14) von einem angrenzenden Tissue an einer Schwächungslinie trennbar ist und der einrückende Streifen die Schwächungslinie zwischen aneinander angrenzenden Tissues unterbricht und eine Trennung der Tissues an der Schwächungslinie bewirkt, **dadurch gekennzeichnet, daß** die Schwächungslinie einen länglichen Schlitz (32) zwischen aneinander angrenzenden Tissues (14) aufweist, wobei der längliche Schlitz komplementär zu dem einrückenden Streifen (18) ist, derart, daß das Tissue (14) durch die Abgabeöffnung (16) abgegeben wird, wobei der einrückende Streifen (18) den länglichen Schlitz (32) schneidet, um ein Reißen der Schwächungslinie herbei zu führen.

2. Tissueverpackung nach Anspruch 1, in welcher der einrückende Streifen (18) in Richtung der Tissues (14) vorgespannt ist, und vorzugsweise der einrückende Streifen (18) durch die Aktion des Abgebens der Tissues durch die Abgabeöffnung (16) hindurch von einer neutralen Position aus vorgespannt wird.

3. Tissueverpackung nach den Ansprüchen 1 oder 2, in welcher der einrückende Streifen (18) mit der Abgabeverpackung (12) einstückig ist und die Abgabeverpackung (12) vorzugsweise ein oder mehrere steife Wände aufweist und der einrückende Streifen (18) aus einer der steifen Wände geformt ist, und ganz bevorzugt der einrückende Streifen aus einem Ausschnitt der steifen Wand geformt ist, wobei der Ausschnitt von der steifen Wand weg gefaltet ist.

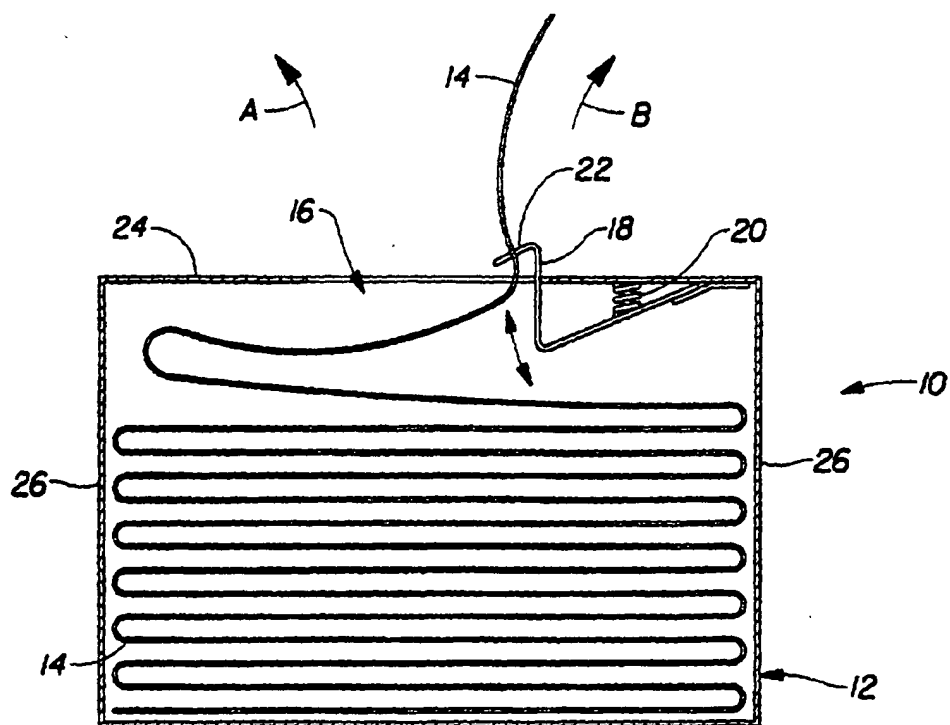
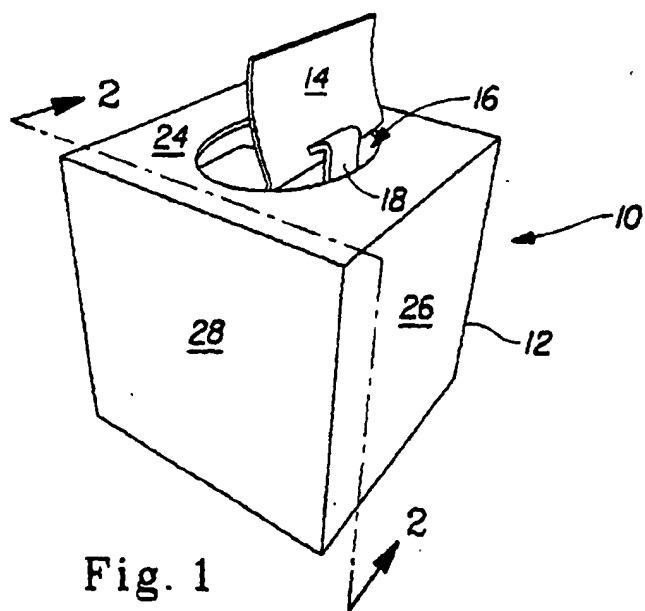
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3. Boîte à mouchoirs en papier selon la revendication 1 ou 2, dans laquelle ladite patte d'engagement (18) fait partie intégrante de ladite boîte de distribution (12), et de préférence, ladite boîte de distribution (12) comporte une ou plusieurs parois rigides et ladite patte d'engagement (18) est formée à partir d'une desdites parois rigides, et de préférence, ladite patte d'engagement est formée à partir d'une découpe de ladite paroi rigide, ladite découpe étant pliée à l'écart de ladite paroi rigide.

### Revendications

1. Boîte à mouchoirs en papier (10) comportant des mouchoirs en papier (14) et une boîte de distribution (12) pour ceux-ci en combinaison, ladite boîte à mouchoirs en papier comportant :
- plusieurs mouchoirs en papier séparables (14), lesdits mouchoirs en papier étant reliés à la suite de manière séparable pour distribution à partir de ladite boîte de distribution (12); et une boîte de distribution (12) destinée à contenir lesdits mouchoirs en papier (14), ladite boîte de distribution (12) ayant une ouverture de distribution (16) à travers, lesdits mouchoirs en papier (14) pouvant être distribués à travers ladite ouverture de distribution (16), ladite boîte de distribution (12) ayant une patte d'engagement (18) s'étendant depuis une extrémité proximale jusqu'à une extrémité distale afin d'intercepter un desdits mouchoirs en papier (14) lorsqu'il est distribué à partir de ladite boîte de distribution (12), chaque dit mouchoir en papier (14) pouvant être séparé d'un mouchoir en papier adjacent au niveau d'une ligne de faiblesse, et ladite patte d'engagement interceptant ladite ligne de faiblesse et provoquant une séparation desdits mouchoirs en papier au niveau de ladite ligne de faiblesse, **caractérisée en ce que** ladite ligne de faiblesse comprend une fente allongée (32) entre des mouchoirs en papier (14) adjacents, ladite fente allongée étant complémentaire de ladite patte d'engagement (18), de telle sorte que, lorsque ledit mouchoir en papier (14) est distribué à travers ladite ouverture de distribution (16), ladite patte d'engagement (18) intercepte ladite fente allongée (32) afin de provoquer un déchirement au niveau de ladite ligne de faiblesse.
2. Boîte à mouchoirs en papier selon la revendication 1, dans laquelle ladite patte d'engagement (18) est rappelée vers lesdits mouchoirs en papier (14), et de préférence, ladite patte d'engagement (18) est rappelée depuis une position neutre par l'action de distribution desdits mouchoirs en papier à travers ladite ouverture de distribution (16).



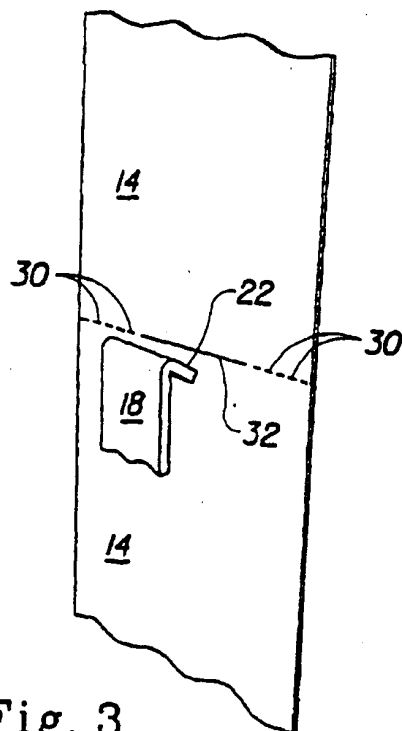


Fig. 3

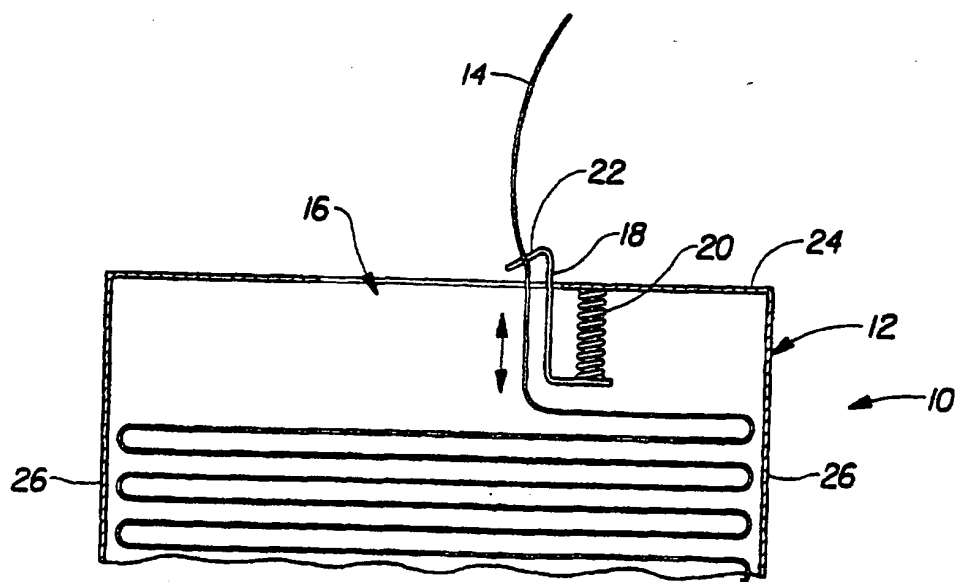


Fig. 4